

**COMPOSITIONS AND METHODS FOR USE IN MODULATING  
IMMUNE SYSTEM FUNCTION**

**ABSTRACT OF THE DISCLOSURE**

Vitamin A (retinol) deficiency results in impaired response to infection and increased mortality. By the present invention, we show that retinol activates immature dendritic cells (DC) and enhances antigen presentation via a cross-talk with inflammatory cytokines, whereas it increases DC death in the absence of these cytokines. These effects, that are mediated through retinoic acids and distinct nuclear retinoid receptor pathways, can be dissociated from each other with selective synthetic retinoids. The present invention identifies a novel cellular target and function for retinoids, provides compositions and methods for modulating the immune system and for treating or preventing various physical disorders in animals, preferably via controlling activation and/or apoptosis in antigen-presenting cells using selective retinoids.